REMARKS

Applicant has amended the claims to more particularly define the invention taking into consideration the outstanding Official Action. Claims 1, 4-9 and 23-25 have been amended. Claims 2-3 and 17-22 have been canceled from the application without prejudice or disclaimer. The cancellation of claim 17 obviates the objection to this claim as set forth in the Official Action.

Applicant most respectfully submits that all the claims now present in the application are in full compliance with 35 U.S.C. §112 and are clearly patentable over the references of record.

The rejection of claims 1-9 under 35 U.S.C. §102(b) as being anticipated by Arai, Chiem et al. (1997), Chiem et al. (1998), Seiler et al. (1993), Seiler et al. (1994) or Jacobson et al. has each been carefully considered but is most respectfully traversed in view of the amendment to claim 1 which finds support at page 6, lines 25-30 of the specification and the cancellation of claims 2-3 without prejudice or disclaimer.

Applicant wishes to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

Applicants note the claim interpretation for claim 1 as set forth in the Official Action. However, this claim analysis is no longer applicable to claim 1 in view of the amendment to this claim to further distinguish over the prior art.

Applicants most respectfully submit that Arai teaches a microchip electrophoresis apparatus comprises a moving mechanism for moving said microchip, which is horizontally positioned on a tray; and a liquid injection mechanism for injecting buffer solution from through holes; and a sample injecting mechanism for injecting sample from a sample injecting hole. (See col. 6, lines 64-68 and col. 7, lines 1-4.) According to Fig. 3 in Arai's art, a syringe unit 42 served both as a sample and a liquid injecting mechanism injects a buffer solution and a sample on position C which should be regarded as a sample reservoir. Microchip 10 is moved in the direction Y to a position for aligning a reservoir, cleaning a syringe and discharging the solution.

The apparatus is further provided with a mechanism for moving tray 40 in the direction X and a mechanism for moving it in the direction Y along guide 44. (See col. 4, lines 49-58.) The sample was actually introduced and injected into microchip 10 for separation by high-voltage power sources 34 and 36. However, the present invention relates to a sample analysis system with chip-based electrophoresis device, comprising an auto-sampling device and a chip, wherein the auto-sampling device is a flow-through based device and driven by dynamic force. This is a claim limitation not shown in the prior art.

The sample was introduced into the microchip device by such dynamic force that makes the microchip capable of direct coupling with many flow-through devices such as an autosampler or a microdialysis probe. The present auto-sampling device comprises two sample-injecting modes, one is continuous mode and the other is discrete mode. The continuous mode such as the microdialysis performs the in-vivo sampling on animal samples, and introduces the continuously obtained sample into chip for separation by said auto-sampling device. The discrete mode comprises a pump and an injector. Set the injector to the loading mode and then set the loaded injector to the injection mode and then use the pump to introduce the sample into a channel in chip. (See page 9, lines 3-19.) Accordingly, the sample injecting mechanism in Aria's reference is different from the auto-sampling device in the presently claimed invention. Accordingly, it is most respectfully requested that this rejection be withdrawn.

Chiem et al. (1997), Chiem et al. (1998) teaches a microchip capillary electrophoresis device comprises an injector for introducing a sample. However, Chiem's art (1997) uses double T injector to introduce a sample. (See second column on page 375) and Chiem's art (1998) also uses double T injector to introduce a sample. (See second column, Fig. 3 on page 593.) These injections are all conducted by electrokinetic forces rather than dynamic forces as used in this invention. Accordingly, the sample injecting mechanism in Chiem's arts are different from the auto-sampling device in the present invention and do not anticipate the claimed invention. Accordingly, it is most respectfully requested that this rejection be withdrawn.

Seiler et al. teaches that the manifold of channels was initially flushed with the buffer by applying pressure to one of the reservoirs with a syringe. (See second column, sample introduction paragraph in page 1482.) Accordingly, the sample injecting mechanism in Seiler's art is different from the auto-sampling device in the presently claimed invention. Also, their injection is conducted by electrokinetic forces rather than dynamic forces as used in this invention. Accordingly, its is most respectfully requested that this rejection be withdrawn.

Jacobson et al. teaches fused quartz substrates for microchip electrophoresis, however, Jacobson's art fails to teach an auto-sampling device to introduce sample into channels. Refer to the Fig. 1, Jacobson only teaches to fill sample in the sample reservoir and transport the sample to the injection cross. (See Fig. 1 on page 2059 and second column, lines 2-5, on page 2060.) Again, their injection is conducted by electrokinetic forces rather than dynamic forces as used in this invention. Accordingly, the sample injecting mechanism in Jacobson's art is different from the auto-sampling device in the present invention.

In addition, the microchip electrophoresis design disclosed in Aria's, Chiems', Seiler's or Jacobson's art is not able to perform continuous sampling for the analysis of the sample and in view of those arts needs a complicated interface design for the continuous sample analysis. Such complicated interface will create lots of variability to the experiment including: (1) the distance between the fluid outlet and the capillary inlet;

(2) the control of gate valve flow rate; (3) stop the gate valve flow rate and start the delay tune for the dialyzed sample, etc., and give rise to a variation in the experiment result. Therefore, the present invention provides a chip-based electrophoresis device and its analysis system to improve the shortcomings of the prior art technology, and further establishes a fast and timely analysis system for the continuous sampling.

Hence, Aria, Chiem,. Seiler or Jacobson cannot anticipate amended claim 1 of the present invention. The amended claim 1 is patentably distinguished over the prior art. Insofar as claims 4-9 depend upon amended claim 1 directly or indirectly, it is Applicant's belief that these claims are also allowable. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claims 17-23 under 35 U.S.C. 103 as unpatentable over Arai, Chiem et al. (1997), Chiem et al. (1998), Seiler et al. (1993), Seiler et al. (1994) or Jacobson et al. either one in view of Nochumson et al. has each been carefully considered but is most respectfully traversed in view of the cancellation of claims 17-22.

Applicants wish to direct the Examiner's attention to the basic requirements of a prima facie case of obviousness as set forth in the MPEP § 2143. This section states that to establish a prima facie case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Section 2143.03 states that all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an

independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Applicants note that claims 23-25 depend upon amended claim 1 either directly or indirectly and it is Applicants belief that these claims are allowable for the reasons discussed above with respect to the primary references. Moreover, there is no teaching in the prior art to modify the teachings of the primary reference to arrive at the presently claimed invention. In re Fritch, 23 USPQ 1780, 1784(Fed Cir. 1992) ("It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps.). Accordingly, it is most respectfully requested that these rejections be withdrawn.

In view of the above comments and further amendments to the claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,

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